Management Summary:
Phase II Archaeological Evaluations at site 7-NC-E-152
Airport and Churchmans Roads Intersection Improvement Project,
New Castle County, Delaware

This document presents preliminary findings for Phase II archaeological investigations conducted by Kise Straw & Kolodner (KSK) at site 7-NC-E-152, New Castle County, Delaware. This Native American occupation was initially identified during KSK's Phase I Cultural Resources Survey of the Airport and Churchmans Road project area, and is located along the west side of Airport Road, north of the intersection with Churchmans Road. Testing during that investigation revealed the site to be situated atop a low bench or terrace overlooking a series of first order tributary streams and expansive wetlands associated with the nearby Christina River. Extending over an approximate 300-foot long section of that landform site 7-NC-E-152 produced a total of 64 prehistoric artifacts, including both bifacial and unifacial tools, simple flake tools, manufacturing debris, cores, and fire-cracked-rock. Temporally diagnostic artifacts recovered from the site were represented by a single quartzite triangular point fragment, and served to tentatively date the occupation to the Woodland II culture period. Because the site appeared to have never been plowed, and that preliminary indications of intra-site artifact patterning were observed, Phase II archaeological evaluations were recommended.

Phase II investigations at the site were undertaken in April and May of this year, and have so far consisted of the hand-excavation of a total of 15 one by one meter square test units (ca. 1.3% of the total site area), along with an additional nine supplemental shovel tests (see attached figure). The test units were distributed across the more intensively occupied southern two-thirds of the site, with concentrations of units specifically targeted on three potential activity areas identified within the larger scatter. The purpose of Phase II excavations was to: 1) evaluate the vertical and horizontal integrity of the associated artifacts deposits; 2) identify any evidence of potentially meaningful intra-site artifact patterning; 3) recover a larger sample of artifacts in order to examine possible site function and dating; and 4) determine whether or not this site had significance that would make it eligible for listing in the National Register of Historic Places.

To date, test units and shovel tests have produced a total of some 711 prehistoric Native American artifacts, including 495 pieces of quartz, chert, jasper, quartzite, and other lithic debitage, a number of both formalized (diagnostic bifaces and unifacially-worked pieces) and expedient tools (utilized flakes, hammerstones, etc.), and quantities of fire-cracked rock. These excavations have also confirmed previous Phase I findings regarding the distribution of artifacts within the site. In particular, they have determined that the site consists of a larger, generally light scatter of lithic artifacts within which are no fewer than three more intensively utilized activity areas. Artifact patterning within each of these activity areas further suggests the presence of a series of knapping scatters potentially indicative of discreet manufacturing episodes and/or functionally distinct behaviors. The nature of artifacts within the site, and particularly the presence of numerous pieces of debitage retaining waterworn cobble cortex, suggests that the occupants of this site were utilizing a predominantly expedient form of lithic technology and were exploiting the locally available quartz, quartzite, and chert cobble resources of the Columbia Formation.

Two of these activity areas have thus far produced potentially diagnostic tool forms. The southern-most area extends along the edge of the landform, generally mirroring the course of the small tributary stream that forms the southern site boundary, and is associated with a single jasper triangular projectile point. The northernmost activity area, situated to the north of the dirt access ramp that bisects the site, was found to contain a possible Hardaway point (quartz) as well as a jasper triangle. This area also produced a small lozenge-shaped point (quartz) and an end scraper manufactured from quartz crystal. No diagnostic tools have yet been found in association with the middle activity area.

While the results of Phase I testing, and in particular the recovery of a triangular point, originally suggested that the site likely dated to the Woodland II culture period, current interpretations favor a substantially older site occupation, potentially associated with the early stages of the Archaic Period. Support for this position derives in large part from the recovery of the possible Hardaway point (ca. 8,000-7,000 B.C.) in the northernmost activity area. Although crudely fashioned and broken in a number of places, and therefore not representing a clearly diagnostic form, the preliminary identification and dating of this point is supported by the co-occurrence of the crystal end scraper, a tool form not commonly manufactured or used after approximately 6,000 B.C.

Likewise, it is also now thought that the triangles recovered from the site may also date to the Archaic Period. All three examples found so far fall well within the range of morphological variation exhibited by Archaic triangles previously documented at stratified sites in New York, New Jersey, and Pennsylvania, and none display the traits commonly associated with undisputed Woodland II varieties (e.g., Levanna). Inferential support for an Archaic Period date for the recovered triangles is found in the total absence of Native American pottery from the site.

In terms of site depositional integrity, Phase II findings indicate that portions of the site exhibit differential degrees of preservation. A re-evaluation of unit profiles suggests that sections of the site located to the south of the Churchman's Road access ramp have been subjected to some degree of historic plow disturbance. Profiles in this portion of the site all exhibit A-B horizon transitions that are relatively abrupt and in places show signs of mixing of the two strata, including possible evidence of plow induced inverted stratigraphy. Moreover, several units display somewhat wave-like A/B interfaces, with sudden dips in the upper strata that may represent plow scars/furrows. Unfortunately, the extremely rocky nature of soils in this area, along with the presence of often-intensive root intrusion, makes clear-cut evaluations of depositional integrity in this part of the site difficult to formulate at this time.

In contrast, unit profiles north of the access ramp, in the vicinity of where the possible Hardaway point and end scraper were recovered (EUs 8,11, and 12), appear to indicate the presence of undisturbed soil sequences. In this portion of the site the upper stratigraphic transitions are much more diffuse and show strong evidence of the bioturbation-related interfingering of A and B-horizon soils that is the hallmark of intact profiles.

Considering these apparent differences in site stratigraphy, it may be that the extant dirt access ramp that divides the northern one-third of the site from the southern portion may represent, or correspond with a former property line or field boundary. Additional map research may help to explain this condition. It should additionally be noted that there do appear to be corresponding differences in the vegetation patterns evident both north and south of the access ramp. Areas south of the ramp are considerably more open and are populated by trees that are probably not more than 50-75 old; a condition that may support the notion that this area was used for agricultural purposes in the not too distant past. To the north of the ramp the forest cover is noticeably denser and appears to possibly represent a more stable climax woodland environment.

Based on the results of Phase II testing it appears that site 7-NC-E-152 may have the potential to represent a significant prehistoric resource eligible for listing in the National Register. However, at this time completed excavations have not satisfactorily resolved all issues with the site that stand in the way of allowing such an assertion to be confidently made. Aside from questions regarding the age of the site and the nature of its occupation (i.e., single vs. multiple components) the issue of site integrity needs further study and more refinement. In particular, the character of artifact-bearing soil deposits in all portions of the site need to be more thoroughly examined, as does the extent to which horizontal artifact patterning south of the access ramp has been affected by possible past agricultural practices. It is

important to note that even if portions of the site have been plowed at some point in time, the demonstration of detailed internal artifact patterning can be used to mitigate problems associated with a possible agriculturally impacted, shallow, multi-component site, by allowing temporally discreet occupations/activity areas to be delineated within the site and to be separately investigated.

In an effort to resolve the above issues KSK suggests that further Phase II testing be performed on site 7-NC-E-152 at this time, and that a qualified geomorphologist/geoarchaeologist be retained to inspect the in-progress excavations. Considering the nature of these cultural deposits it is recommended that supplemental investigations involve a combination of both close interval shovel test and one-meter square test unit excavation. Shovel test pits (maximum of 20) will be both systematically and judgmentally placed in order to facilitate the identification of fine-grained horizontal artifact patterning and of other possible internal activity areas. Supplemental test units (maximum of 10; ca. 2.2% of the total site area) will be located within identified activity areas, including those already sampled during this investigation, in order to: 1) more completely evaluate the integrity of horizontal and vertical artifact patterning; 2) refine site dating through the recovery of additional diagnostic artifacts; and 3) search for evidence of possible intact sub-surface features. In order to best accomplish these goals test units will be clustered within activity areas, with some number possibly placed so as to form limited contiguous excavations. The consulting geoarchaeologist will be required to examine both the available completed excavation units, plus a representative portion of the proposed additional units, and will be charged with determining the extent to which archaeological deposits within the site may have been impacted by previous cultural and/or natural actions.

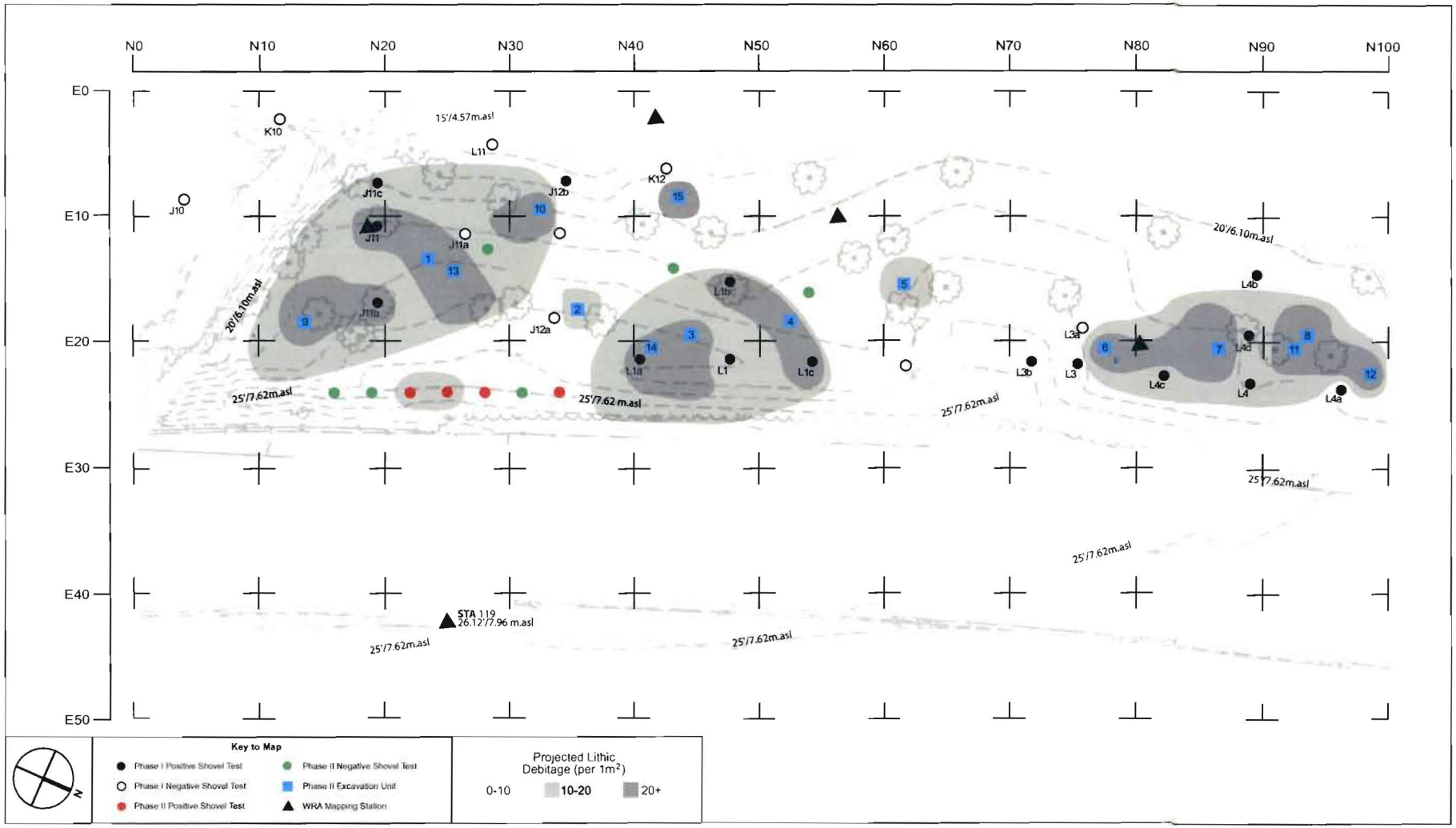

Figure 1. Preliminary 7-NC-E-152 Phase II testing results (Source: WRA 2002).